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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,790	09/26/2003	John Banning	TRAN-P243	9488

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EXAMINER	
PAN, DANIEL H	

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/672,790	BANNING ET AL.	
	Examiner	Art Unit	
	Daniel Pan	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-45 are presented for examination.

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1,17,18,23,33,37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The reasons are given below.

3. As to claim 1, 18, no physical transformation can be found in the claim. Furthermore, the claim is not useful because no substantial practical application can be found in the claim. The claim is not tangible because fetching a first machine language instruction comprising a segment without reciting the details of the instruction component being fetched is an abstract idea. Similarly, executing the second machine language instruction without further reciting the executed components is too general and abstract. It is not concrete because no predictable result of the execution of the second d machine language can be found d in the claim. Therefore, claim 1 is directed to non-statutory subject matter. The applicant is reminded that the focus is not on the steps taken to achieved a final result which is useful, tangible, and concrete, but rather the final result achieved which is useful, tangible, and concrete (see page 20,101 Interim Guidelines at uspto.gov).

4. As to claim 17, although claim 17 additionally recited a memory for storing the first machine language, it is not sure what the first machine language can achieved in the claim. Therefore, no substantial practical application can be found in the claim.

5. As to claim 23, no physical transformation can be found in the claim. The substantial practical application of the modification and the updating of the trigger pattern and first field and second field is not clear.

6. As to claim 33, 37, no substantial practical application can be found for the steps of accessing the machine language, recognizing the pattern, identifying , and modifying the portion. Although claim 37 recites additionally the dispatching of the instruction segment to the execution unit, no actual execution is being achieved. Therefore, no substantial practical application can be found.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5,8,9-14, 18,17, 20,21-23, 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Nunomura (6,871,274).

8. As to claims 1,8, 17, 33, 37, Nunomura taught at least :

a) fetching a first machine language instruction (tran instruction) comprising an instruction segment [TRANS 1100 0010 0001 0010] (see the dispatched instruction in col. from the prefetch unit in col.5, lines 50-54);

b) responsive , or recognizing , or based on, to a trigger pattern [index] in said first machine language instruction (see machine language in fig.4) , modifying said instruction segment to form a second machine language instruction (see 1001 1111 1100 0000 0000 0010 0001 0010 in fig.4, col.6, lines 27-50); and

c) executing said second machine language instruction (see execution unit 230 connected to output of conversion unit 330 via the instruction decode unit 240 in fig.1).

9. As to the memory for storing the instruction in claim 17 , see fig.122, col.5, lines 41-45).

10. As to claim 18, see cache memory 3054.

11. As to the pipeline in claim 19 , see parallel processing in col12, lines 46-52.

12. As to claim 20, 21, see fig.2.

13. As to claim 22, see modifying said instruction segment to form a second machine language instruction (see 1001 1111 1100 0000 0000 0010 0001 0010 in fig.4, col.6, lines 27-50).

14. As to claim 23, Nunomura taught :

a) a trigger pattern [address bits] to initiate modification of a segment (see of a very long instruction word(see (modification) of vliw);

b) a first field to indicate a portion of the segment to be modified; and

c) a second field to indicate how to modify the portion of the segment.

15. As to claim 2, Nunomura modifying substituted a bit pattern of a subset of said instruction segment (see the corresponding index).

16. As to claim 3,12, Nunomura also repeated the fetching (see the determination of program end or not to the prefetch step in B in fig.3A).

17. As to claims 4, 13, Nunomura was also directed to a microcode (see fig.4).

18. As to claims 5,14, Nunomura also included a particular execution unit (see fig.1 [230]).

19. As to claims 9,10,see the entries of conversion table storing the instruction modification information in fig,.2).

20. As to claim11, see the index for corresponding instruction modification information in fig.2, see also col.9, lines 39-40 for alternative embodiment).

21. As to claim 34, see the mapping in fig.2.

22. As to claims 35,36, see corresponding index in the mapping table in fig,2.

23. Claims 6,7, 16 , 23-27, 32, 38,39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nunomura (6,871,274) in view of Rim (6,202,143).

24. As to claims 6,7, 38, Nunomura did not specifically show the VLIW as claimed. However, Rim taught a VLIW conversion system (see col.8, lines 8-27). It would have been obvious to one of ordinary skill in the art to use Rim in Nunomura for including the VLIW as clamed because the use of Rim could provide Nunomura the ability to accept different type of instruction formats , thereby increasing the adaptability Nunomura , and it could be achieved by predefining VLIW control parameters of Rim (e.g. the instruction length and type) into the configuration file of Nunomura so that the specific instruction type with corresponding width of the Rim's VLIW could be recognized by Nunomura , and because Nunomura also taught a variable length instruction pattern could be used (see col.12, lines 26-46), which was an indication of the applicability of a large number of instruction words or a long instruction word (see col.12, lines 46-52), such as the VLIW, in doing so , provided a motivation.

25. As to claim 23, 26, Nunomura taught a packet contained comprising:

a) a trigger pattern [1100] to initiate modification of a segment of a instruction word (see load instruction in fig.12, LD is the uncompressed format of TRAN);
b) a first field [0010] to indicate a portion of the segment to be modified (see the index portion in fig.14) ;

c) a second field [10] to indicate how to modify the portion of the segment (see the position into the segment in fig.12,14).

Nunomura did not specifically show the VLIW as claimed. However, Rim taught a VLIW conversion system (see col.8, lines 8-27). It would have been obvious to one of ordinary skill in the art to use Rim in Nunomura for including the VLIW as clamed. The reasons have been given in the paragraph above, therefore, not repeated herein.

26. As to claims 24,32, see position bit 2.

27. As to claim 25, Nunomura's second field was also one bit at position one.

28. As to claim 27, see type TRAN [1100] for conversion.

29. As to claim 39, see the entries in memory in fig.4.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

30. Claims 28-31, 40-44, 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nunomura (6,871,274) in view) in view of Rim (6,202,143) in view of Ebicioglu et al. (6,112,299).

31. As to claim 28-31,40-44, Nunomura did not specifically show the trigger pattern identify the arithmetic and logic , nor the floating point, nor the memory, nor the branch as claimed. However, Ebicioglu taught a VLIW identifying the branch, and ALU operations (see col.11, lines 14-67, col.12, lines 1-12). It would have been obvious to

one of ordinary skill in the art to use Ebicioglu in Nunomura for identify the arithmetic and logic, the memory, and the branch as clamed because the use of Ebicioglu could provide Nunomura the ability to designate specific operating units in a given instruction, the reason for using Rim to include VLIW were already given in previous paragraph, and Ebicioglu is used because it shows the use of VLIW to identify the arithmetic and logic unit and the branch were already known in the art. As to the floating point, since no specific format of the floating point has been reflected into the claim, the examiner holds that Ebicioglu's ALU would also recognizable by one ordinary skill in the art to be applicable in floating point, and for the above reason , provided a motivation.

32. As to claim 45, Nunomura was directed to microcode see fig.4.

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

34. a) Luick (6,230,260) is cited for the teaching of the VLIW idnetifying the branch (see fig.10, col.19, lines 57-67);

35. b) Bereboum (6,658,551) is cited for the teaching of the VLIW instruction fields to identify the portion of the instruciton to be modified (see figs.13,14).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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